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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/582,230	07/21/2000	Takayoshi Hiraga	0670-248	1846

7590

09/12/2005

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/582,230

Applicant(s)

HIRAGA ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 21 and 23 is/are allowed.
- 6) ☒ Claim(s) 24 is/are rejected.
- 7) ☒ Claim(s) 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on July 5, 2005, which has been entered into the file.
- By this amendment, the applicant has amended claims 20, 22 and 24.
- Claims 20-24 remain pending in this application.

Claim Objections

1. Claim 22 and 24 are objected to because of the following informalities:

(1). **Claim 22 has been amended** to include the phrase "hologram patterns in said hologram member are arranged along a direction of a longer axis of an ellipsoidal spot area of said real laser light source" that is really confusing and indefinite. It is not clear what is considered to be the "ellipsoidal spot area of said real light source". Where does this ellipsoidal spot area come from and where is this spot formed? The scopes of the claim are really unclear. (The similar objection has been present in the previous Office Action).

(3). **Claim 24 has been amended** to include the phrase "wherein said hologram pattern allows distribution of optical intensity within a single light area of said servo light spot and wherein said distribution of optical intensity is uniform about an optical axis center" is confusing and indefinite since it is not clear what does it mean by "allows distribution of optical intensity within a single light area of said servo light spot". It is not clear what exactly is being claimed here since the intensity of the light within a light spot is implicitly always "distributed" within the spot. The phrase does not seem to be ended and fails to have any meaning. Also it is not clear the optical axis is defined with respect to what.

Furthermore, it is very confusing from the specification, seems like the specification gives the conflicting support for achieving this "uniform intensity" by either using "non-diffraction

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hologram pattern” or not being able achieved by “non-diffraction hologram pattern so needs a phase hologram”, (please see pages 13 and 18-19 of the specification). The specification fails to teach what is considered to be a “non-diffraction hologram pattern”. There is no such thing as “non-diffraction hologram pattern” since by definition a hologram pattern will cause diffraction to the incident light otherwise it cannot be a hologram pattern. It is not clear if the applicant means “zero order diffraction” when referred to the term “non-diffraction”. Please specify and make appropriate corrections.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Yamakawa et al (PN. 5,751,679).

Claim 24 has been amended to include new features which therefore necessitates the new grounds of the rejections.

Yamakawa et al teaches an *optical pickup device* that is comprised of a single real *laser* light source (such as 8 shows in Figure 4 and please see column 5, lines 13-23), an *objective lens* (10, Figures 1A to 3), serves as the *light spot forming optical element* for receiving the laser light penetrates a *hologram member* (11), having a *hologram pattern*. The laser light passes through the central portion of the hologram pattern is *diffracted* by the hologram pattern and focused by the objective lens to form a light spot at an *optical disk* (1, plane A). The diffraction of the laser light by the hologram pattern allows

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the distribution of the optical intensity of the light beam within the area of the light spot and the distribution of the optical intensity within the light spot is *uniform* about an optical axis center defined by the objective lens, (please see Figures 1B, 2A and 2B).

This reference has met all the limitations of the claim with the exception that it does not teach explicitly that the light spot formed is a servo light spot. However Yamakawa et al does teach explicitly that the light spot is used to retreat the information on the optical disk and light is reflected by the optical disk to be received by optical detector at the plane B. It would have been obvious to one skilled in the art to make the light beam and the light spot *used* as the servo light spot for the benefit of using the light spot to receive feedback information from the optical disk as desired for tracking the information on the optical disk.

Allowable Subject Matter

4. Claims 20-21 and 23 are allowed.
5. Claim 22 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.
6. The following is a **statement of reasons** for the indication of allowable subject matter: of the prior art references considered, none has disclosed an optical pickup device having a *single real laser light source* and a *hologram member* that diffracts the light from the laser light source to form at *least two imaginary light sources*. The *hologram patterns* of the hologram member is *determined* to give diffraction light an *inverse aberration* of an aberration caused by optical elements in the optical path from the real light source to the recording medium wherein the aberration includes a *sub aberration caused upon diffraction in forming the imaginary laser light sources* so that the *aberration is canceled* and a

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diameter of each of a plurality of light spots formed on the recording medium is *diminished with respect to non-aberration corrected light spot*.

Response to Arguments

7. Applicant's arguments with respect to claim 24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

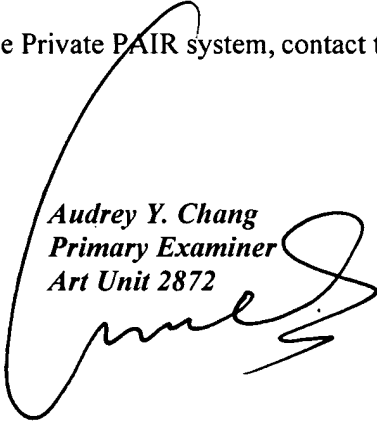
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Audrey Y. Chang
Primary Examiner
Art Unit 2872



A. Chang, Ph.D.